

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/583,084  
Source: IFWP  
Date Processed by STIC: 6/28/06

# ***ENTERED***

## CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/583,084

CRF Edit Date: 6/28/06  
Edited by: AK

\_\_\_ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

\_\_\_ Corrected the SEQ ID NO. Sequence numbers edited were:

\_\_\_\_\_

\_\_\_ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

\_\_\_\_\_

\_\_\_ Deleted:    invalid beginning/end-of-file text ;    page numbers

\_\_\_ Inserted mandatory headings/numeric identifiers, specifically:

\_\_\_\_\_

\_\_\_ Moved responses to same line as heading/numeric identifier, specifically:

\_\_\_\_\_

\_\_\_ Other:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



IFWP

## RAW SEQUENCE LISTING

DATE: 06/28/2006

PATENT APPLICATION: US/10/583,084

TIME: 10:45:12

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06282006\J583084.raw

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3 <110> APPLICANT: SUNTORY LIMITED
5 <120> TITLE OF INVENTION: Arachidonic acid-containing plants and use of the plants
7 <130> FILE REFERENCE: SU0423
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/583,084
C--> 10 <141> CURRENT FILING DATE: 2006-06-15
12 <150> PRIOR APPLICATION NUMBER: JP 2003-419124
13 <151> PRIOR FILING DATE: 2003-12-17
15 <150> PRIOR APPLICATION NUMBER: JP 2004-097089
16 <151> PRIOR FILING DATE: 2004-03-29
18 <160> NUMBER OF SEQ ID NOS: 28
20 <170> SOFTWARE: PatentIn Ver. 2.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 457
24 <212> TYPE: PRT
25 <213> ORGANISM: Mortierella alpina
27 <400> SEQUENCE: 1
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31 Asn Ala Glu Ala Leu Asn Glu Gly Lys Lys Asp Ala Glu Ala Pro Phe
32           20           25           30
34 Leu Met Ile Ile Asp Asn Lys Val Tyr Asp Val Arg Glu Phe Val Pro
35           35           40           45
37 Asp His Pro Gly Gly Ser Val Ile Leu Thr His Val Gly Lys Asp Gly
38           50           55           60
40 Thr Asp Val Phe Asp Thr Phe His Pro Glu Ala Ala Trp Glu Thr Leu
41   65           70           75           80
43 Ala Asn Phe Tyr Val Gly Asp Ile Asp Glu Ser Asp Arg Ala Ile Lys
44           85           90           95
46 Asn Asp Asp Phe Ala Ala Glu Val Arg Lys Leu Arg Thr Leu Phe Gln
47           100          105          110
49 Ser Leu Gly Tyr Tyr Asp Ser Ser Lys Ala Tyr Tyr Ala Phe Lys Val
50           115          120          125
52 Ser Phe Asn Leu Cys Ile Trp Gly Leu Ser Thr Phe Ile Val Ala Lys
53           130          135          140
55 Trp Gly Gln Thr Ser Thr Leu Ala Asn Val Leu Ser Ala Ala Leu Leu
56   145          150          155          160
58 Gly Leu Phe Trp Gln Gln Cys Gly Trp Leu Ala His Asp Phe Leu His
59           165          170          175
61 His Gln Val Phe Gln Asp Arg Phe Trp Gly Asp Leu Phe Gly Ala Phe
62           180          185          190
64 Leu Gly Gly Val Cys Gln Gly Phe Ser Ser Ser Trp Trp Lys Asp Lys
65           195          200          205
67 His Asn Thr His His Ala Ala Pro Asn Val His Gly Glu Asp Pro Asp

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Input Set : A:\PTO.AMC.txt

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68      210      215      220
70 Ile Asp Thr His Pro Leu Leu Thr Trp Ser Glu His Ala Leu Glu Met
71 225      230      235      240
73 Phe Ser Asp Val Pro Asp Glu Glu Leu Thr Arg Met Trp Ser Arg Phe
74      245      250      255
76 Met Val Leu Asn Gln Thr Trp Phe Tyr Phe Pro Ile Leu Ser Phe Ala
77      260      265      270
79 Arg Leu Ser Trp Cys Leu Gln Ser Ile Met Phe Val Leu Pro Asn Gly
80      275      280      285
82 Gln Ala His Lys Pro Ser Gly Ala Arg Val Pro Ile Ser Leu Val Glu
83      290      295      300
85 Gln Leu Ser Leu Ala Met His Trp Thr Trp Tyr Leu Ala Thr Met Phe
86 305      310      315      320
88 Leu Phe Ile Lys Asp Pro Val Asn Met Ile Val Tyr Phe Leu Val Ser
89      325      330      335
91 Gln Ala Val Cys Gly Asn Leu Leu Ala Ile Val Phe Ser Leu Asn His
92      340      345      350
94 Asn Gly Met Pro Val Ile Ser Lys Glu Glu Ala Val Asp Met Asp Phe
95      355      360      365
97 Phe Thr Lys Gln Ile Ile Thr Gly Arg Asp Val His Pro Gly Leu Phe
98      370      375      380
100 Ala Asn Trp Phe Thr Gly Gly Leu Asn Tyr Gln Ile Glu His His Leu
101 385      390      395      400
103 Phe Pro Ser Met Pro Arg His Asn Phe Ser Lys Ile Gln Pro Ala Val
104      405      410      415
106 Glu Thr Leu Cys Lys Lys Tyr Gly Val Arg Tyr His Thr Thr Gly Met
107      420      425      430
109 Ile Glu Gly Thr Ala Glu Val Phe Ser Arg Leu Asn Glu Val Ser Lys
110      435      440      445
112 Ala Ala Ser Lys Met Gly Lys Ala Gln
113      450      455
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117 <211> LENGTH: 1371
118 <212> TYPE: DNA
119 <213> ORGANISM: Mortierella alpina
121 <400> SEQUENCE: 2
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123 ctgaatgagg gcaagaagga tgccgaggca ccctttctga tgatcattga caacaagggtg 120
124 tacgatgtcc gcgagtttgt ccctgatcat cccggtggaa gtgtgattct cacgcacgtt 180
125 ggcaaggacg gcaactgacgt ctttgacact ttccaccccg aggctgcttg ggagactctt 240
126 gccaactttt acgttggtga tattgatgag agcgatcgtg ccatcaagaa tgatgacttt 300
127 gcggccgagg ttcgcaagct gcgcaccttg ttccagtccc ttgggtacta cgactcgtcc 360
128 aaggcatact atgccttcaa ggtctcgttc aacctctgca tctggggctt gtcgactttc 420
129 attgttgcca agtggggcca gacctcgacc ctcgccaacg tgctctcggc tgcgctcttg 480
130 ggtctcttct ggcagcagtg cggatggttg gcgcacgact ttttgacca ccagggtctt 540
131 caggaccgtt tctgggggtga tcttttcggc gccttcttgg gaggtgtctg ccagggtttc 600
132 tcgtcctcct ggtggaagga caagcacaac actcaccacg ctgctcccaa cgtccacggc 660
133 gaggatcccg acattgacac tcacctctg ttgacctgga gtgagcatgc tctggagatg 720
134 ttctcggatg ttctgacga ggagctgacc cgtatgtggt cgcgcttcat ggtcctcaac 780

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DATE: 06/28/2006

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TIME: 10:45:12

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06282006\J583084.raw

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135 cagacctggt tctacttccc cattctctcg tttgcccgtc tgtcctgggtg cctccagttcc 840
136 attatgtttg ttctgcccac cggtcaggcc cacaagccct ctggagcgcg tgtgcccatt 900
137 tcgttgggtc agcagctgtc tctggctatg cactggacct ggtacctcgc caccatgttc 960
138 ctgttcatta aggatcccggt caacatgatt gtgtactttt tgggtgtcgca ggctgtttgc 1020
139 ggcaacttgt tggcgattgt gttctcgtc aaccacaacg gcatgcctgt gatctccaag 1080
140 gaggaagcgg tcgatatgga cttcttcacc aagcagatca tcacgggtcg tgatgttcac 1140
141 cctgggtctgt ttgccaactg gttcacgggt ggattgaact accagattga gcaccacttg 1200
142 ttcccttcga tgccccgcca caacttttca aagatccagc ctgctgtcga gactttgtgc 1260
143 aaaaagtacg gtgtccgata ccataccact ggtatgatcg agggaaactgc agaggtcttt 1320
144 agccgtttga acgaggtctc caaggcggcc tccaagatgg gcaaggcaca g 1371
147 <210> SEQ ID NO: 3
148 <211> LENGTH: 318
149 <212> TYPE: PRT
150 <213> ORGANISM: Mortierella alpina
152 <400> SEQUENCE: 3
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154 1 5 10 15
156 Phe Ile Asp Leu Ala Arg Ala Ile Gly Val Gln Ala Ala Pro Tyr Val
157 20 25 30
159 Asp Pro Leu Glu Ala Ala Leu Val Ala Gln Ala Glu Lys Phe Phe Pro
160 35 40 45
162 Thr Val Val His His Thr Arg Gly Phe Leu Val Ala Val Glu Ser Pro
163 50 55 60
165 Leu Ala Arg Glu Leu Pro Leu Met Asn Pro Phe His Val Leu Leu Ile
166 65 70 75 80
168 Ala Leu Ala Tyr Leu Val Thr Val Phe Val Gly Met Gln Ile Met Lys
169 85 90 95
171 Asn Phe Glu Arg Phe Glu Val Lys Thr Phe Ser Leu Phe His Asn Phe
172 100 105 110
174 Cys Leu Val Ser Ile Ser Ala Tyr Met Cys Gly Gly Ile Leu Tyr Glu
175 115 120 125
177 Ala Tyr Gln Ala Asn Tyr Gly Leu Phe Glu Asn Ala Ala Asp His Thr
178 130 135 140
180 Val Gln Gly Leu Pro Met Ala Lys Met Ile Trp Leu Phe Tyr Phe Ser
181 145 150 155 160
183 Lys Ile Met Glu Phe Val Asp Thr Met Ile Met Val Leu Lys Lys Asn
184 165 170 175
186 Asn Arg Gln Ile Ser Phe Leu His Val Tyr His His Ser Ser Ile Phe
187 180 185 190
189 Thr Ile Trp Trp Leu Val Thr Phe Val Ala Pro Asn Gly Glu Ala Tyr
190 195 200 205
192 Phe Ser Ala Ala Leu Asn Ser Phe Ile His Val Ile Met Tyr Gly Tyr
193 210 215 220
195 Tyr Phe Leu Ser Ala Leu Gly Phe Lys Gln Val Ser Phe Ile Lys Phe
196 225 230 235 240
198 Tyr Ile Thr Arg Ser Gln Met Thr Gln Phe Cys Met Met Ser Ile Gln
199 245 250 255
201 Ser Ser Trp Asp Met Tyr Ala Met Lys Val Leu Gly Arg Pro Gly Tyr
202 260 265 270

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DATE: 06/28/2006

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TIME: 10:45:12

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06282006\J583084.raw

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204 Pro Phe Phe Ile Thr Ala Leu Leu Trp Phe Tyr Met Trp Thr Met Leu
205      275      280      285
207 Gly Leu Phe Tyr Asn Phe Tyr Arg Lys Asn Ala Lys Leu Ala Lys Gln
208      290      295      300
210 Ala Lys Ile Asp Ala Ala Lys Glu Lys Ala Arg Lys Leu Gln
211 305      310      315
214 <210> SEQ ID NO: 4
215 <211> LENGTH: 954
216 <212> TYPE: DNA
217 <213> ORGANISM: Mortierella alpina
219 <400> SEQUENCE: 4
220 atggagtcga ttgcgcaatt cctcccctca aagatgccgc aagatctggt tattgacctt 60
221 gcaagggcca tcggtgtcca ggccgcaccc tatgtcgacc ctctcgaggc agcgcttggt 120
222 gccagggccg agaagttctt ccccacggtc gttcatcaca cgcgcggctt tttggtcgcg 180
223 gtcgagtcac ccttggcccc tgagctgccc ttgatgaacc ccttccacgt gctggtgatc 240
224 gcgctcgctt acttgggtcac ggtctttgtg ggcatgcaga tcatgaagaa ctttgaacgg 300
225 ttcgagggtca agacgttctc gctcttccac aacttttgtc tggctctcgat cagtgcctac 360
226 atgtgcggcg ggatcttgta cgaggcttac caggccaact atggactggt tgagaacgcg 420
227 gccgatcata ccgtccaggg tcttcttatg gccaaagtga tctggctctt ctacttctcc 480
228 aagatcatgg agtttgtcga caccatgatc atggctccta agaagaacaa ccgccagatc 540
229 tcgttcttgc acgtctacca ccacagctcc atcttcacca tctgggtggt gggtcaccttt 600
230 gttgcaccca atggtgaagc ctacttctcg gctgcgttga actcgttcat ccacgtgatc 660
231 atgtacggct actacttctt gtccgccttg ggcttcaagc aggtgtcggt catcaagttc 720
232 tacatcacgc gttcgcagat gacgcagttc tgcgatgatg cgatccagtc ctctggggac 780
233 atgtatgcca tgaaggtgct tggccgcccc ggataccctt tcttcatcac cgccctgctt 840
234 tggttctaca tgtggaccat gctcggactc ttctacaact tctacagaaa gaacgccaa 900
235 ttggccaagc aggccaagat cgatgctgcc aaggagaagg caaggaagtt gcag 954
238 <210> SEQ ID NO: 5
239 <211> LENGTH: 446
240 <212> TYPE: PRT
241 <213> ORGANISM: Mortierella alpina
243 <400> SEQUENCE: 5
244 Met Gly Thr Asp Gln Gly Lys Thr Phe Thr Trp Gln Glu Leu Ala Ala
245 1      5      10      15
247 His Asn Thr Glu Asp Ser Leu Leu Leu Ala Ile Arg Gly Asn Val Tyr
248      20      25      30
250 Asp Val Thr Lys Phe Leu Ser Arg His Pro Gly Gly Thr Asp Thr Leu
251      35      40      45
253 Leu Leu Gly Ala Gly Arg Asp Val Thr Pro Val Phe Glu Met Tyr His
254      50      55      60
256 Glu Phe Gly Ala Ala Glu Ala Ile Met Lys Lys Tyr Tyr Val Gly Thr
257 65      70      75      80
259 Leu Val Ser Asn Glu Leu Pro Ile Phe Pro Glu Pro Thr Val Phe His
260      85      90      95
262 Lys Thr Ile Lys Gly Arg Val Glu Ala Tyr Phe Lys Asp Arg Asn Met
263      100     105     110
265 Asp Ser Lys Asn Arg Pro Glu Ile Trp Gly Arg Tyr Ala Leu Ile Phe
266      115     120     125
268 Gly Ser Leu Ile Ala Ser Tyr Tyr Ala Gln Leu Phe Val Pro Phe Val

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/583,084

DATE: 06/28/2006

TIME: 10:45:12

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06282006\J583084.raw

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269      130      135      140
271 Val Glu Arg Thr Trp Leu Gln Val Val Phe Ala Ile Ile Met Gly Phe
272 145      150      155      160
274 Ala Cys Ala Gln Val Gly Leu Asn Pro Leu His Asp Ala Ser His Phe
275      165      170      175
277 Ser Val Thr His Asn Pro Thr Val Trp Lys Ile Leu Gly Ala Thr His
278      180      185      190
280 Asp Phe Phe Asn Gly Ala Ser Tyr Leu Val Trp Met Tyr Gln His Met
281      195      200      205
283 Leu Gly His His Pro Tyr Thr Asn Ile Ala Gly Ala Asp Pro Asp Val
284      210      215      220
286 Ser Thr Ser Glu Pro Asp Val Arg Arg Ile Lys Pro Asn Gln Lys Trp
287 225      230      235      240
289 Phe Val Asn His Ile Asn Gln His Met Phe Val Pro Phe Leu Tyr Gly
290      245      250      255
292 Leu Leu Ala Phe Lys Val Arg Ile Gln Asp Ile Asn Ile Leu Tyr Phe
293      260      265      270
295 Val Lys Thr Asn Asp Ala Ile Arg Val Asn Pro Ile Ser Thr Trp His
296      275      280      285
298 Thr Val Met Phe Trp Gly Gly Lys Ala Phe Phe Val Trp Tyr Arg Leu
299      290      295      300
301 Ile Val Pro Met Gln Tyr Leu Pro Leu Ser Lys Val Leu Leu Leu Phe
302 305      310      315      320
304 Thr Val Ala Asp Met Val Ser Ser Tyr Trp Leu Ala Leu Thr Phe Gln
305      325      330      335
307 Ala Asn His Val Val Glu Glu Val Gln Trp Pro Leu Pro Asp Glu Asn
308      340      345      350
310 Gly Ile Ile Gln Lys Asp Trp Ala Ala Met Gln Val Glu Thr Thr Gln
311      355      360      365
313 Asp Tyr Ala His Asp Ser His Leu Trp Thr Ser Ile Thr Gly Ser Leu
314      370      375      380
316 Asn Tyr Gln Ala Val His His Leu Phe Pro Asn Val Ser Gln His His
317 385      390      395      400
319 Tyr Pro Asp Ile Leu Ala Ile Ile Lys Asp Thr Cys Ser Glu Tyr Lys
320      405      410      415
322 Val Pro Tyr Leu Val Lys Asp Thr Phe Trp Gln Ala Phe Ala Ser His
323      420      425      430
325 Leu Glu His Leu Arg Val Leu Gly Leu Arg Pro Lys Glu Glu
326      435      440      445
329 <210> SEQ ID NO: 6
330 <211> LENGTH: 1338
331 <212> TYPE: DNA
332 <213> ORGANISM: Mortierella alpina
334 <400> SEQUENCE: 6
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336 gacagcctcc ttttggtat ccgtggcaat gtatacgatg tcacaaagtt cttgagccgt 120
337 catcctggtg gaacggatac tctcttgctc ggagctggcc gagatgtcac tccggttttt 180
338 gagatgtacc acgagtttgg agctgcagag gctatcatga agaagtacta tgttggcaca 240
339 ctggtctcaa atgagttgcc catcttccca gagccaacgg tgttccataa gaccatcaag 300

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/583,084

DATE: 06/28/2006

TIME: 10:45:13

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\06282006\J583084.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number  
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date



**Raw Sequence Listing before editing  
(for reference only)**



IFWP

## RAW SEQUENCE LISTING

DATE: 06/26/2006

PATENT APPLICATION: US/10/583,084

TIME: 13:40:03

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06262006\J583084.raw

3 <110> APPLICANT: SUNTORY LIMITED  
 5 <120> TITLE OF INVENTION: Arachidonic acid-containing plants and use of the plants  
 7 <130> FILE REFERENCE: SU0423  
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/583,084  
 C--> 10 <141> CURRENT FILING DATE: 2006-06-15  
 12 <150> PRIOR APPLICATION NUMBER: JP 2003-419124  
 13 <151> PRIOR FILING DATE: 2003-12-17  
 15 <150> PRIOR APPLICATION NUMBER: JP 2004-097089  
 16 <151> PRIOR FILING DATE: 2004-03-29  
 18 <160> NUMBER OF SEQ ID NOS: 28  
 20 <170> SOFTWARE: PatentIn Ver. 2.1

## ERRORED SEQUENCES

616 <210> SEQ ID NO: 28  
 617 <211> LENGTH: 20  
 618 <212> TYPE: DNA  
 619 <213> ORGANISM: Artificial Sequence  
 621 <220> FEATURE:  
 622 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer GLER  
 624 <400> SEQUENCE: 28  
 625 cgacatcatg cagaactgtg 20  
 E--> 632 5  
 E--> 635 5  
 E--> 637 1

**Does Not Comply  
 Corrected Diskette Needed**

## VERIFICATION SUMMARY

DATE: 06/26/2006

PATENT APPLICATION: US/10/583,084

TIME: 13:40:04

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06262006\J583084.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:632 M:254 E: No. of Bases conflict, this line has no nucleotides.

L:635 M:254 E: No. of Bases conflict, this line has no nucleotides.

L:637 M:254 E: No. of Bases conflict, this line has no nucleotides.